



SERVICE DEVELOPMENT METHODOLOGY

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DTS SERVICE DEVELOPMENT METHODOLOGY

1. NEED FOR A SERVICE DEVELOPMENT METHODOLOGY

As the State of California's primary provider of centralized technology services, part of the Department of Technology Services' (DTS) role is to provide those services that are in the best interest of the State to be delivered through a centralized data center. To do so the DTS must evaluate new technologies and the potential to consolidate existing distributed IT solutions into a centralized shared service that will provide efficiency and standardization for the State.

The former Teale and Health and Human Services data centers had performed this function for many years before consolidation into the DTS. However, the fact that each data center had distinct lines of business and sets of customers limited the ability of each to effectively drive the discussion of enterprise solutions for the State. The consolidation of these data centers has consolidated the customer base and services provided and the establishment of the Technology Services Board (TSB) provides an excellent forum for open discussion among all stakeholders of what services should be provided by the State's data center function and how to accomplish the effective delivery of those services.

1.1 Business Problem

The concept and goal of centralized provision of common and shared IT services has been thoroughly documented and discussed by the State's IT leadership, incorporated into executive orders, and has broad support among policy makers. However, as many states have already discovered through their consolidation efforts, consolidating IT infrastructure and management responsibilities at the enterprise level is a very large and complex undertaking. Most states that have implemented statewide IT consolidations have done so in coordination with a statewide mandate from either the Governor or the Legislature. Absent such a formal mandate in California, the DTS operates as a service provider that must compete against the private sector and its customers providing services internally. As such, the primary business problem DTS faces when establishing a new service or consolidating the wide distribution of an existing service is ensuring that there will be sufficient customer adoption of the service to create the economies of scale necessary to provide the expected value of centralized service provision. The DTS has identified the three primary factors that contribute to this business problem:

- **Insufficient and inconsistent communication of the business case for a DTS service to external stakeholders.** Does the service meet customer needs and provide economies at the enterprise level? How is the business case developed and communicated to stakeholders for consideration?
- **Current Administrative and IT governance policies are not well aligned with the strategic goal of developing shared services.** How can we ensure proper control of DTS and customer expenditures while allowing for proper growth of shared services?
- **Customer adoption is influenced by many factors beyond service quality and value.** Customer issues related to control, flexibility, service and workload disruptions, and budget and personnel issues may impede adoption of shared services.

The methodology proposed in this document addresses the first factor cited above and provides a framework for addressing the second, but it cannot completely address the third factor. However, the deliverables that result from the methodology are envisioned to provide a

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foundation upon which discussions of addressing the third factor can be initiated on a case by case basis for each service proposal.

1.2 Business Requirements of Methodology

To address the business problem of ensuring adequate customer adoption, the Service Development Methodology proposed in this report has the following business requirements:

| Business Requirements for DTS Service Development Methodology | |
|--|---|
| 1. Provide a comprehensive and consistent approach for the evaluation of DTS services. | <ul style="list-style-type: none">a. Ensure due diligence in internal DTS evaluation.b. Ensure customer and oversight involvement in development process. |
| 2. Facilitate discussion of all barriers to customer adoption (as opposed to limiting discussion to DTS rates and service quality). | <ul style="list-style-type: none">a. Ensure customer adoption assumptions are a critical piece of the business case evaluation process and recognize all potential barriers to entry.b. Place responsibility for approving a service with those who have control over the customer adoption. |
| 3. Streamline external budget and IT project governance requirements. | <ul style="list-style-type: none">a. Properly align IT Procurement Authority Thresholds with risk.b. Provide Budget Authority for DTS expenditures consistent with the common strategic objective of developing shared services. |

2. METHODOLOGY

The proposed methodology is intended to address Business Requirements #1 and 2a. Included in this chapter is an overview of the methodology and additional detail regarding the proposed analytical and phased approaches.

Overview

This section provides a brief overview of the proposed methodology

Given that:

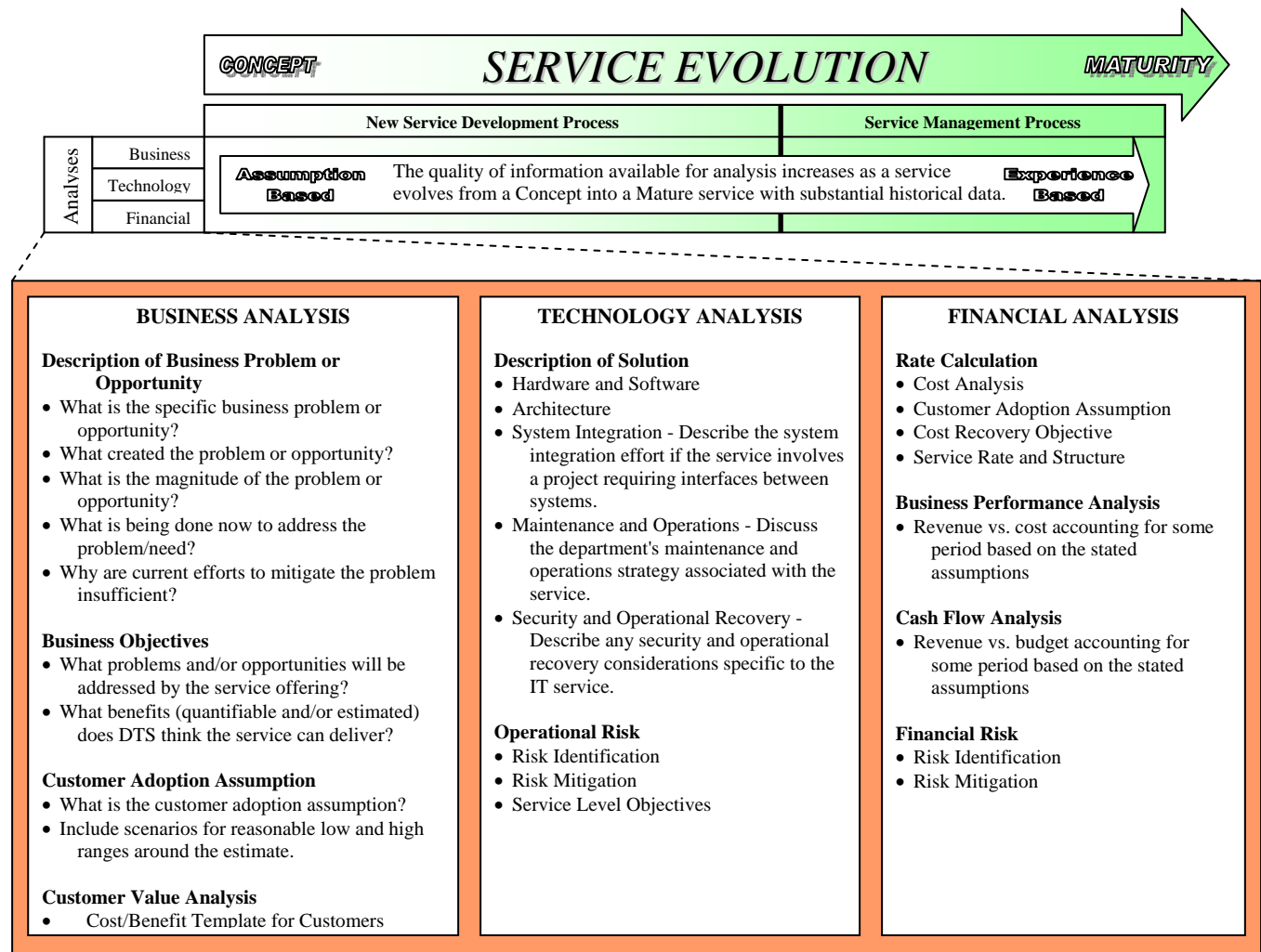
- The quality of information available to evaluate the viability of a solution as a DTS service offering (business case) evolves over time given research, proof of concept, and experience.
- The information that goes into the business case for a service offering is the result of three primary areas of analysis: Business, Technology and Financial.
- There are standard questions in each of these three areas that can serve as a framework for the evaluation of any new service concept.
- The answers to these questions will be identified and may actually change to some extent as the DTS progresses through the evaluation of the service.
- The final business case for a service is the synthesis of the results of these three analyses to answer three primary questions:

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- Does the service meet customer needs?
- Can the service be provided at a marketable combination of cost and quality?
- Can the service be provided at an acceptable level of operational and financial risk?

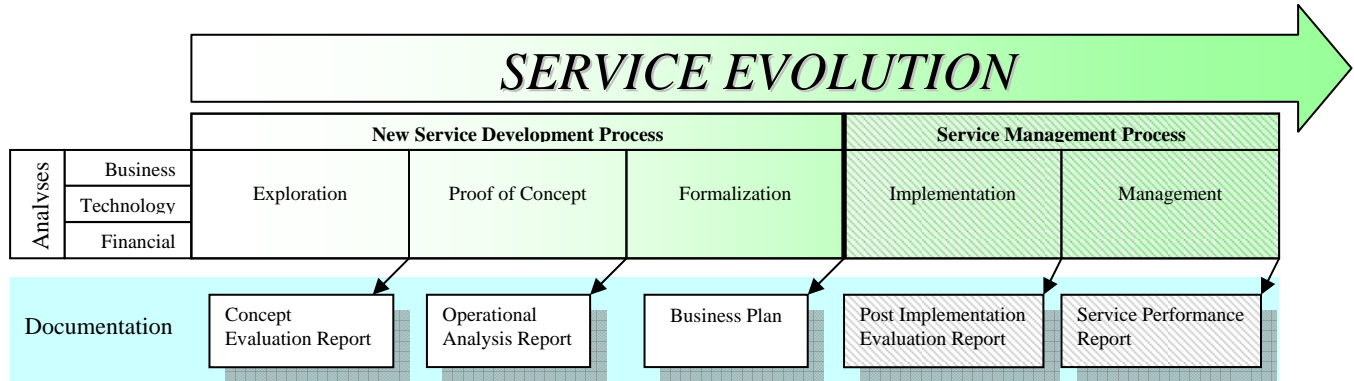
The DTS proposes to:

1. Develop new services through the evolution of three primary areas of analysis: Business, Technology, and Financial. Each analysis contains a standard set of questions or information requirements that provide a framework from which a consistent, well-organized and comprehensive business analysis can be accomplished for DTS services. By separating the key business questions into these three categories they can be discussed and analyzed in detail and in a clear, logical progression. See Appendix A: “Analyses in support of Service Offering Business Plan” for the proposed framework of each analysis.

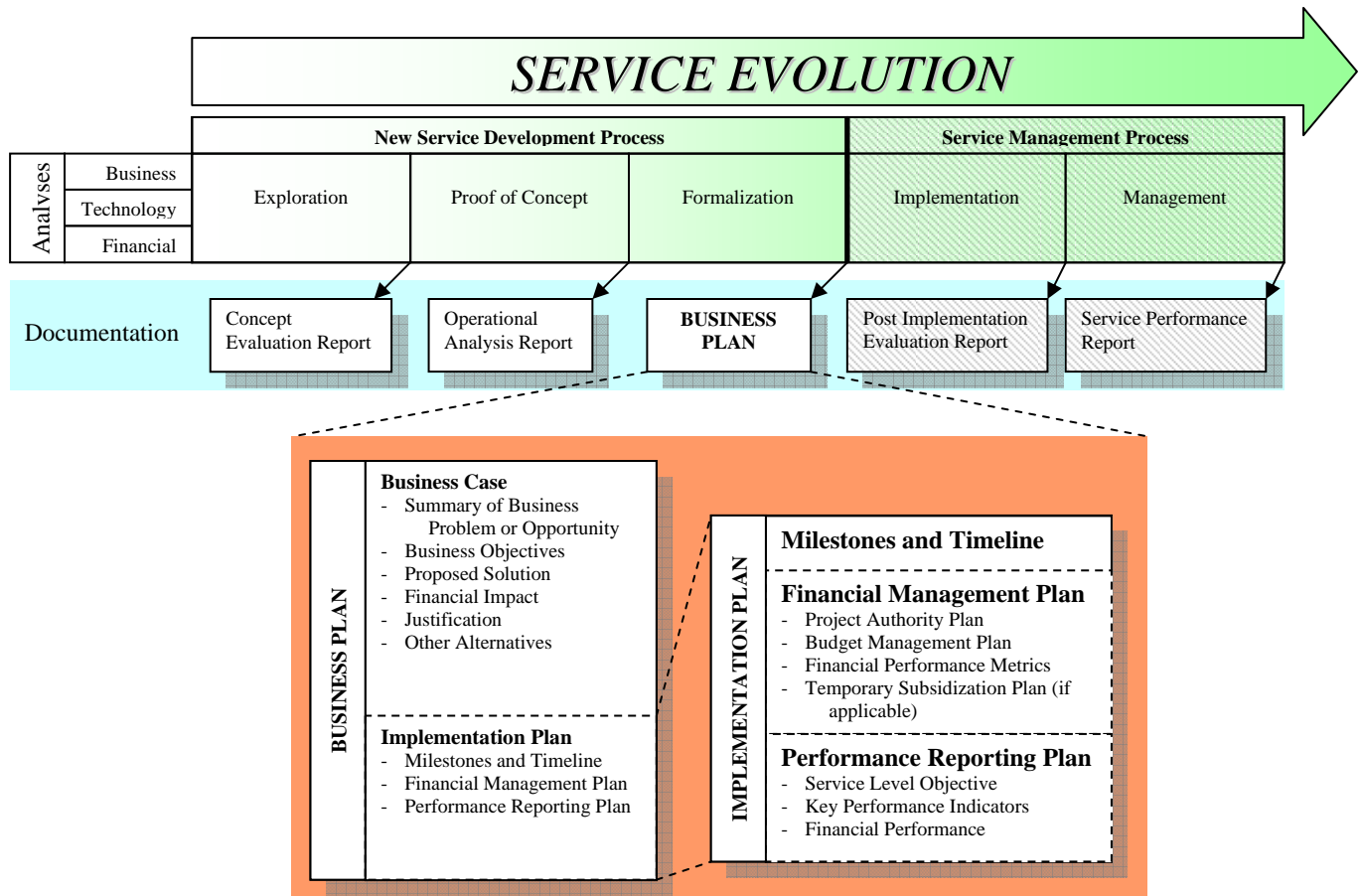


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2. Execute the new service development process in three phases which conclude with decision packages for the TSB that indicate the current status of the each analysis including the outstanding questions that will be evaluated in the next phase.



3. Formalize the business case and implementation plan for the service at the conclusion of the evaluation process with a Business Plan for the service that pulls the conclusions of each analysis together to evaluate the comprehensive business case for the proposed service. See attached “Outline of Service Offering Business Plan” for the structure and contents of the Business Plan.



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3. GOVERNANCE

The governance processes proposed in this chapter are intended to address the Business Requirements #2b and 3. In addition to the proposed governance process for review and approval of DTS services, this chapter provides a brief description of some of the tactical concerns that influence customer adoption. These issues represent barriers to entry that must be part of the discussion of DTS services but do not fit within the scope of the proposed service development methodology.

Business Requirements #2b and 3

Business Requirement #2: Facilitate discussion of all barriers to customer adoption

- b. Place responsibility for approving a service with those who have control over the customer adoption.

Business Requirement #3: Streamline external budget and IT project governance requirements.

3.1 Review and Approval of Deliverables

Each of the three phases of the Service Development Methodology concludes with a report that will be submitted to stakeholders for review and approval. The process described in the table below addresses Business Requirement 2b by incorporating DTS customers into the service approval process through the TSB.

Review and Approval Process for Deliverables

Development Phase: Exploration

Report: Concept Evaluation – submitted when DTS is looking for direction from the Board on pursuing a concept and/or when expenditures are necessary to implement a pilot in the Proof of Concept phase. Identifies the outstanding portions of the analyses that need to be addressed in subsequent phases.

Review and Approval:

TSB Services Committee – Submitted pursuant to public meeting requirements.

TSB (if Services Committee finds that full TSB should approve any proposed action item) – Submitted pursuant to public meeting requirements.

Development Phase: Proof of Concept

Report: Operational Analysis – Submitted at the conclusion of Proof of Concept to report back to the Board the answers to the questions evaluated in the Proof of Concept phase.

Review and Approval:

TSB Services Committee – Submitted pursuant to public meeting requirements.

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TSB (if Services Committee finds that full TSB should approve any proposed action item) – Submitted pursuant to public meeting requirements.

Development Phase: Formalization

Report: Service Business Plan – Serves as the formal approval of the DTS Service Offering and is intended to approval establishes the foundation for the ongoing governance of the service including identification of the changes to the service that would require additional reporting as well as the expected budget and IT project treatment of the DTS and its customers in relation to the establishment and expansion of the service.

Review and Approval:

Finance - Submitted no later than 30 days prior to the Services Committee meeting at which it is first considered and no later than 60 days prior to the TSB meeting at which it is first considered.

TSB Services Committee – Submitted pursuant to public meeting requirements.

TSB – Submitted pursuant to public meeting requirements.

3.2 Ongoing DTS Service Governance

Business Requirement #3 is to streamline the process for securing budget and IT Project authority. This section discusses how the Service Business Plan is intended to provide that link and deliver the efficiencies desired.

Governance Role of the Service Business Plan

The Service Business Plan serves as the Feasibility Study Report (FSR) for the service. The implementation of the service may include activities that constitute a traditional IT projects and would require the project documentation as required under current administrative procedure. However, the business justification for the service as an enterprise solution for DTS customers is made in the Service Business Plan and could be leveraged for DTS and customer Budget Change Proposals (BCP) and FSRs. The table below illustrates how the Service Business Plan ties into the IT Project and Budget Authority processes for the DTS.

The most critical changes proposed here are those to the Project and Budget Authority processes for the Ongoing Support and Capacity Growth category of expenditures. The objectives here are to:

- 1) **Properly align IT Procurement Authority Thresholds with risk.** Currently, the DTS estimates the capacity implications of all known and unknown customer activities in the Budget Year and the aggregation of all those projects are annualized and treated as an IT Project, including most of the traditional project tracking and reporting requirements. This policy results in an onerous zero base budgeting process for DTS capacity expenditures, which arguably are the lowest risk, most desirable type of expenditures the DTS makes. The current process also makes it much more difficult to effectively track

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and communicate about the relationship between budget and expenditures because the budget level is constantly being reset.

- 2) **Provide Budget Authority for DTS expenditures consistent with the common strategic objective of developing shared services.** Similar to the discussion above, the issue here is removing the obstacles from the path of the right kind of IT spending. Of course, identification of what expenditures are the worthy of special treatment and the control processes that ensure budget flexibility is used appropriately are prerequisites to securing any such change. The Service Business Plan contains sections by which these will be identified and approved.

IT Procurement Authority

The DTS is proposing that the Service Business Plan provide the IT procurement authority for maintenance and growth expenditures when those expenditures are consistent with the Financial Analysis and rate calculation information provided in the Plan. To do so, the Business Plan must provide for the identification of those IT expenditures that are considered acceptable as maintenance and growth without additional approvals. This identification is included in Section 4.2.1.2 Scope of Project Authority.

Budget Authority

The DTS proposes that the Service Business Plan provides a foundational business case that can be used to either expedite the review of DTS and customer budget requests related to the service or provide for the establishment of increased budget flexibility, if the need for additional flexibility and agility is deemed necessary. The Budget Authority Plan (Section 4.2.2) within the Service Business Plan will provide the opportunity for budget needs to be estimated and any changes to standard budget treatment to be proposed.

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Proposed Project and Budget Authority Treatment of Service Delivery Expenditures

| Expenditures | 4. Implementation Plan | | | |
|-------------------------------------|------------------------------------|---|---|--|
| | 4.2 Financial Management Plan | | | |
| | 4.2.1 Project Authority Plan | | 4.2.2 Budget Management Plan | |
| | Source of IT Procurement Authority | Identification in Service Business Plan | Source of Budget Authority | Identification in Service Business Plan |
| Implementation Activities | Approved FSR | 4.2.1.1 IT Projects Required for Implementation | Initial BCP if necessary | 4.2.2.1 Estimated Budget Authority Requirements |
| Ongoing Support and Capacity Growth | Approved Service Business Plan | 4.2.1.2 Scope of Project Authority | Standard Budget Process Or Other Mechanisms if deemed necessary and are approved by the Legislature | 4.2.2 Budget Authority Plan |
| Changes to Service Delivery Model | Approved FSR | 4.2.1.3 Change Reporting Requirements | BCP as necessary | 4.2.2.2 Expenditure Control Process 4.2.2.3 Budget Change Process |

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3.3 Outstanding Governance Issues

The methodology proposed in this paper provides a standardized process for evaluating the business case for a potential DTS service offering. However, in order to appropriately leverage the advantages of centralized IT services and achieve the economies of scale envisioned, additional issues must be addressed. The resolution of these issues will be handled on a case by case basis and therefore is not part of the formal methodology. However, given the criticality of these issues to the successful implementation of DTS services, the DTS proposes that they be explored as part of the review and approval process.

Enterprise Governance Issues

This section addresses the reality that even with a well coordinated Service Development Process that results in customer buy-in and streamlines the process by which the DTS secures IT Project and Budget Authority, there are still significant obstacles to the successful implementation centralized provision of common and shared IT services. Without addressing the following there remains significant risk that the DTS will not obtain sufficient customer adoption of existing or proposed services to provide them at the level of quality and price that should be expected of California's provider of centralized IT services.

The following are factors that are likely to continue to create a gap between the goals and behavior of customers and the goals of the enterprise to consolidate services:

Control – Customer IT managers are accountable for the quality of service to their customers. Placing responsibility for the infrastructure or a service outside of their direct control may be difficult task for some of them.

Flexibility – Having a large infrastructure affords customers with flexibility to internally redirect resources that might otherwise be difficult to redirect or may not even be available if certain services are centralized at the DTS.

Service Disruption – Given the accountability for level of service, it may be difficult for an IT Manager to risk any potential one-time or ongoing service disruption for the purpose of supporting the enterprise goal of centralization, especially when the existing service is considered adequate and is budgeted.

Workload Disruption – Given the effort required to migrate infrastructure or responsibilities to the DTS and complete all the necessary documentation, the Customer IT Manager may not see the value of consolidation as sufficient to offset this workload disruption especially when the existing service is considered adequate and is budgeted.

Budget Treatment – It is a reasonable expectation that in coordination with consolidation, there will be reductions of budgets to capture the resulting efficiencies. This is likely to be especially true in the category of Personal Services. Thus, customers expect that any effort to consolidate will be accompanied by budget drills intended to identify the resulting savings that should be removed from their budget. This activity adds to the workload disruption concern mentioned above and may cause concern that an aggressive search for savings may result in too many resources being removed, introducing the risk that consolidation could actually hamper the IT shop's ability to meet its customer requirements.

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Personnel Issues – Whether the decision maker is effected directly by this concern or not, the fact that position reductions and/or redirections to DTS will result in changes and hardships to current employees in the form of relocation, change of commute, classification justification, expected career paths, etc., in many cases will be enough to prevent a manager from volunteering for consolidation, especially when the existing service is considered adequate and is budgeted.

These factors illustrate that it is not reasonable to assume that customer IT managers will jump at the opportunity to consolidate infrastructure or services if the change does not represent an improvement in cost or quality sufficient to offset these concerns. Thus, the threshold for the customer decision to use DTS or consolidate is not whether it's good for the State, or even if it is the most economical solution for the customer, but rather if it is enough of a benefit to offset the factors listed above. This situation makes it difficult for the DTS to predict and ultimately ensure that it will experience sufficient customer adoption of a new or existing service to achieve the necessary economies of scale to make the service economical.

Under the current IT governance process there is a number of decision makers that can direct customers to utilize DTS services either for a specific project or as a general policy for all appropriate responsibilities:

- IT Manager
- Chief Information Officer
- Agency Information Officer
- State CIO
- Director
- Agency Secretary
- Finance
- Legislature

Each decision maker may have a unique perspective on the issue and their own set of priorities and tolerance for change. It is reasonable to assume that each has a threshold in the cost/benefit analysis of using DTS services that would trigger a decision to consolidate. Further, there is likely to be two different thresholds:

- **Opportunistic Consolidation Threshold** – What level of benefit would justify a mandate to consolidate at some opportunistic migration point (hardware refresh, major software upgrade, etc.)?
- **Immediate Consolidation Threshold** – What level of benefit would justify a mandate for the immediate consolidation of infrastructure and responsibilities to the DTS?

In order for all of these stakeholders to engage in consideration of these questions, they will need sufficient information to address their specific priorities. If the factors listed above are not addressed and the thresholds for encouraging or mandating consolidation are not identified, then it is not likely that the DTS will make major advancements in terms of growth and the resulting economies of scale regardless of the due diligence proposed in this methodology. The DTS maintains that discussion and resolution of the following are as critical to the successful implementation of DTS services as the question of rates and service quality:

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- At what cost/benefit threshold is a decision made to mandate consolidation?
- Who is responsible for making those decisions?
- What information is needed from the DTS?
- What are the operational and administrative processes for executing consolidation?
 - Budget treatment
 - Treatment of Personnel Resources (positions and people)

Currently, the proposed Service Business Plan and the Analyses behind it focus on the strategic potential for a service and the cost given assumptions of volume based on the current positioning of DTS as a competitive alternative for customers. However, to the extent that the questions above are answered and additional information requirements are identified, the proposed methodology and the deliverables produced through it may provide a vehicle for providing the information to the TSB and all other stakeholders for consideration.

APPENDIX A: ANALYSES IN SUPPORT OF SERVICE OFFERING BUSINESS PLAN

The following outline is intended to facilitate consistent, well-organized, and comprehensive business analyses of DTS service offerings. By separating the key business questions into these three categories they can be discussed and analyzed in detail and in a clear, logical progression. This structure also facilitates a phased approach to the analysis of a new service offering because the DTS can clearly identify which questions are outstanding and require additional research and/or a pilot phase in order to complete the analysis. Once complete, the results of these analyses are drawn into the Business Plan where the conclusions and interaction between them are discussed in the context of a complete business justification.

1. Business Analysis

1.1. Description of Business Problem or Opportunity

- What is the specific business problem or opportunity?
- What created the problem or opportunity?
- What is the magnitude of the problem or opportunity?
- What is being done now to address the problem/need?
- Why are current efforts to mitigate the problem insufficient?

1.2. Business Objectives

- What problems and/or opportunities will be addressed by the service offering?
- What benefits (quantifiable and/or estimated) does DTS think the service can deliver?

1.3. Customer Adoption Assumption

- What is the customer adoption assumption? Provide as much specific support for the assumption as possible.
- Include scenarios for reasonable low and high ranges around the estimate.

1.4. Customer Value Analysis

- Cost/Benefit Template for Customers

2. Technology Analysis (per alternative, as appropriate)

2.1. Description of Solution

- 2.1.1. Environment – Describe the physical environment where the equipment will reside including unique constraints (e.g., power, raised floor, air temperature, etc.)
- 2.1.2. Hardware – Describe the hardware components required for the alternative (e.g., servers, network devices, storage) including manufacturer, model, configuration, and any other descriptive information.
- 2.1.3. Software – Describe the software components required for the alternative (e.g., database, operating system, applications, utilities, tools) including manufacturer, licensing, customizations, and any other descriptive information.
- 2.1.4. Architecture
 - 2.1.4.1. Connectivity/Communications
 - 2.1.4.2. Relationships
 - 2.1.4.3. Dependencies
 - 2.1.4.4. Interfaces/integrations
- 2.1.5. Life Cycle
 - 2.1.5.1. Scalability – Discuss any capacity thresholds and mitigation steps to be performed as they are exceeded. Can this be linked to “number of users” metrics?
 - 2.1.5.2. Future impacts – Describe any known short term product changes/upgrades as well as long term product direction.
 - 2.1.5.3. Lifespan – Describe the expected operational life of the solution’s components.

APPENDIX A: ANALYSES IN SUPPORT OF SERVICE OFFERING BUSINESS PLAN

2.2. Maintenance & Operations

- 2.2.1. Describe the Incident Management process, including 1st and 2nd level support and event monitoring.
- 2.2.2. Describe the Problem Management process.
- 2.2.3. Describe the Capacity Planning process.

2.3. Security

- 2.3.1. Describe the physical, technical, and administrative controls for ensuring data integrity and maintaining confidentiality.
- 2.3.2. Describe the value of the data, who owns, it, and any regulatory concerns (e.g., HIPAA, etc.).
- 2.3.3. Describe any security risks, their potential frequency and impact, and how they will be mitigated.

2.4. Operational Recovery

- 2.4.1. Describe the backup and archival methodology.

2.5. Operational Risk

- 2.5.1. Risk Identification
- 2.5.2. Risk Mitigation

3. Financial Analysis (per alternative, as appropriate)

3.1. Rate Calculation

- 3.1.1. Cost Analysis
 - Identify all cost components and their characteristics (price, one-time/ongoing, fixed/variable, life expectancy).
 - State all key operational assumptions (these may become KPIs).
 - Model economies of scale
 - Model expenditures for both cost accounting and budget accounting
- 3.1.2. Customer Adoption Assumption
- 3.1.3. Cost Recovery Objective
 - Explain rationale for cost recovery objective selected
 - Identify revenue required to meet cost recovery objective
- 3.1.4. Service Rate and Structure
 - Identify charging metrics
 - Identify rate given:
 - Cost analysis
 - Customer adoption assumption
 - Revenue requirement of the cost recovery objective
 - Charging metrics

3.2. Business Performance Analysis

- Revenue vs. cost accounting for some period based on the stated assumptions.

3.3. Cash Flow Analysis

- Revenue vs. budget accounting for some period based on the stated assumptions.

3.4. Financial Risk

- 3.4.1. Risk Identification
 - Scenario analysis to evaluate material changes to key assumptions – as appropriate
- 3.4.2. Risk Mitigation
 - If a planned period of under-recovery is assumed the parameters of that plan should be detailed here.

APPENDIX B: OUTLINE OF SERVICE OFFERING BUSINESS PLAN

- 1. Executive Summary**
- 2. Nature of Request**
 - 2.1. Background/History**
 - 2.2. Baseline/Existing Environment**
 - 2.3. Summary of Business Problem or Opportunity**
 - 2.4. Consequences of Inaction**
 - 2.5. Business Objectives**
- 3. Proposed Solution**
 - 3.1. Description of Service**
 - 3.1.1. General Description
 - 3.1.2. Impact on End Users
 - 3.1.3. Development Approach
 - 3.2. Financial Impact**
 - 3.2.1. Rate Calculation
 - 3.2.2. Business Performance Impact (Est. Revenue vs. Cost Accounting)
 - 3.2.3. Cash Flow Impact (Est. Revenue vs. Budget Accounting)
 - 3.3. Justification**
 - 3.3.1. Quality of Service (Does the Service Meet Customer Business Needs?)
 - 3.3.1.1. Mapping Solution to Business Objectives
 - 3.3.1.2. Outstanding Issues
 - 3.3.2. Marketability (Can the Service be Provided at a Marketable Rate?)
 - 3.3.3. Risk (Can the Service be Provided at an Acceptable Level of Operational and Financial Risk?)
 - 3.3.3.1. Operational
 - 3.3.3.2. Financial
 - 3.4. Other Alternatives Considered**
- 4. Implementation Plan**
 - 4.1. Implementation Milestones and Timeline**
 - 4.2. Financial Management Plan**
 - 4.2.1. Project Authority Plan
 - 4.2.1.1. IT Projects Required for Implementation
 - 4.2.1.2. Scope of Project Authority
 - 4.2.1.3. Change Reporting Requirements
 - 4.2.2. Budget Authority Plan
 - 4.2.2.1. Estimated Budget Authority Requirements
 - 4.2.2.2. Expenditure Control Process
 - 4.2.2.3. Budget Change Process
 - 4.2.3. Funding Plan
 - 4.2.3.1. Fund Source
 - 4.2.3.2. Cost Recovery Objective
 - 4.2.3.3. Temporary Subsidization Plan (if applicable)
 - 4.3. Performance Reporting Plan (Financial and Operational)**
 - 4.3.1. Key Performance Indicators
 - 4.3.1.1. Service Level Objective
 - 4.3.1.2. Financial Performance Metrics
 - 4.3.2. Monitoring and Reporting Process